Using Neurotelemetry analyses to evaluate outcomes in patients undergoing protocol-directed therapeutic hypothermia (PDTH) following cardiac arrest and return of spontaneous circulation

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This study focuses on the effects of using Neurotelemetry (real-time, continuous EEG monitoring with video) analyses to evaluate outcomes in patients undergoing protocol-directed therapeutic hypothermia (PDTH) following cardiac arrest and return of spontaneous circulation. The purpose is to develop predictors of both good outcomes and futility and to demonstrate improved outcomes using Neurotelemetry (NT) with trending and quantitative analyses to aid clinicians in the care of these challenging patients. The data pool consists of 372 patients who underwent PDTH. Seizures, myoclonus (brief involuntary twitching of muscles), and status epilepticus (SE) occurred in 51 of these patients. SE is a dangerous condition in which the brain is in a state of persistent seizures. Seizures increase cerebral metabolism and have been shown to increase intracranial pressure. SE has been independently related to death in cardiac arrest survivors. Intermittent EEG recordings can potentially miss subclinical seizures and subclinical SE making the recordings unreliable. Neurotelemetry accommodates for this shortcoming. Use of continuous EEG to detect seizures during this time is specifically recommended. The validation of Neurotelemetry in this patient population can lead to the development of Neurotelemetry services across the country.

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